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1
2 RECORD OF ORAL HEARING
3 UNITED STATES PATENT AND TRADEMARK OFFICE

4
5 BEFORE THE BOARD OF PATENT APPEALS
6 AND INTERFERENCES

7
8 *Ex Parte* KEITH C. HONG, HUSNU M. KALKANOGLU,
9 MING L. SHIAO, ANNE B. HARDY, JAMES A. SALVATORE,
and ANDREW G. JOHNSON, JR.

10 Appeal 2009-010445
11 Application 10/600,809
12 Technology Center 1700

13 Oral Hearing Held: January 21, 2010

14
15 Before ADRIENE LEPIANE, HANLON, CHUNG K. PAK, and
16 PETER F. KRATZ, *Administrative Patent Judges*.

17
18 APPEARANCES:

19
20 ON BEHALF OF THE APPELLANT:

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1 The above-entitled matter came on for hearing Thursday, January 21,
2 2010, commencing at 1:02 p.m., at the U.S. Patent and Trademark Office,
3 600 Dulany Street, Alexandria, Virginia, before Todd Brown, a Notary
4 Public.

5 THE USHER: Good afternoon. Calendar No. 57, Appeal No. 2009-
6 010445, Mr. Sluzas.

7 JUDGE HANLON: Are you observing or are you with --

8 UNIDENTIFIED SPEAKER: He's representing us.

9 JUDGE HANLON: Okay. I didn't know if you were observing the
10 whole session. Good afternoon, Mr. Sluzas.

11 MR. SLUZAS: Good afternoon.

12 COURT REPORTER: Thanks.

13 MR. SLUZAS: You're welcome.

14 JUDGE HANLON: Whenever you're ready you may begin. You
15 have 20 minutes.

16 MR. SLUZAS: Thank you. I think I can begin right now.

17 JUDGE HANLON: Okay.

18 MR. SLUZAS: My name is Alex Sluzas. I am representing
19 CertainTeed Corporation in this matter, and I'd like to talk a little bit about
20 the problem faced by the inventors here, and the problem is fairly simple.
21 It's how to discourage algae growth on asphalt-shingled roofs.
22 Conventionally, roofing granules which go into the asphalt roofing shingles
23 have a mineral rock core and they have a color coating on the outside for
24 aesthetic reasons, mainly. And that is simply an oxide, a metal oxide, such
25 as iron oxide, dispersed in a clay silicate binder.

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1 Now, conventional algae-resistant roofing granules have an additional
2 component, and that's typically copper oxide, zinc oxide or zinc sulfide, or
3 some combination, that's also dispersed in the coating on the outside of the
4 roofing granules.

5 Now, this invention, a fairly simple invention, but I think it's
6 somewhat ingenious. The invention relates to making a porous core out of
7 stone dust and incorporating the algaecide in the core as opposed to putting
8 it on the outside of the roofing granules.

9 There are three primary references that the Examiner has cited. They
10 all relate to this art. There is no question about it. And they all relate to
11 various ways of putting the algaecide into the coating on the outside of the
12 granules. The secondary references, however, are not in the same art.
13 They're not analogous art --

14 JUDGE PAK: Counsel, let's look at the three primary references.

15 MR. SLUZAS: Yes.

16 JUDGE PAK: It does teach using mineral materials, am I correct?

17 MR. SLUZAS: That's absolutely correct. They all --

18 JUDGE PAK: When they say mineral, is that inclusive of stone dust?

19 MR. SLUZAS: Yes. But stone dust, when the term is used, it really
20 depends on the -- we're really talking about different sized dust here. The
21 granules that are useful, the size of dust that's useful for roofing granules, is
22 within a specific range. And what we're doing is taking smaller particle-
23 sized material and aggregating it into something that's suitably sized for
24 roofing granules.

25 JUDGE PAK: Counsel, I also noticed that those primary references
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1 involve -- after using it with the binder, they fire the resulting product?

2 MR. SLUZAS: That's correct.

3 JUDGE PAK: Is that corresponding to claim insolubilization of the
4 binder?

5 MR. SLUZAS: Yeah. The point to firing is to cause the -- you heat
6 up the binder hot enough so that the clay and the binder is dehydrated to
7 form a sort of a semi-ceramic material. But you don't want to heat it up so
8 hot so that it forms a glaze on the rock because the glaze would be
9 impermeable, and we want to have a somewhat porous coating so that water
10 can get in and out of the coating to some extent and leach out some of the
11 copper, all right, and that gives the algacidal effect. But that's part of the
12 prior art. There is no question about that.

13 JUDGE PAK: Now, according to the Examiner, each of the
14 references obtains base particles by crushing and screening mineral
15 aggregates. You said just a while ago mineral aggregates includes stone
16 dust, stone --

17 MR. SLUZAS: Yes.

18 JUDGE PAK: Stone materials?

19 MR. SLUZAS: Yes.

20 JUDGE PAK: And when they do the crushing, would that correspond
21 to your claim stone dust?

22 MR. SLUZAS: Well, the stone dust, when they do -- they crush it and
23 they size it, so they select particles that are within a certain size range, you
24 know, within a certain range of screen sizes. And what happens with the
25 rest I don't know. Typically, I would imagine it's discarded. It's either too
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1 big or too small for this particular application in general. What we do is take
2 material that's smaller, that would otherwise be discarded, and then
3 aggregate it into granules. At the same time we're aggregating it, we put in a
4 binder and we put in algaecide so that the cores of these roofing granules are
5 porous and had algaecide in them.

6 JUDGE KRATZ: So if I understand it, your core is built up from
7 stone dust?

8 MR. SLUZAS: That's right. We've got a built-up core.

9 JUDGE KRATZ: Whereas the core of the prior art is just a granule
10 that was the result of a crushing process --

11 MR. SLUZAS: That's right, solid stone.

12 JUDGE KRATZ: And the stone dust as you use it in your claim, as
13 one skilled in the art would understand it, as I believe you're arguing this to
14 be the case, is different than the aggregate that had been used in the prior
15 art --

16 MR. SLUZAS: Sizewise, yes.

17 JUDGE KRATZ: Sizewise? It's different -- it's different because it is
18 a different size?

19 MR. SLUZAS: That's correct.

20 JUDGE KRATZ: And the only way -- and your preparation of an
21 inner base requires binder to actually form the base?

22 MR. SLUZAS: That's correct.

23 JUDGE KRATZ: Whereas the prior art requires binder not to form
24 the base but to form the roofing granule with the other materials like the
25 algaecide?

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1 MR. SLUZAS: To form the coating.

2 JUDGE KRATZ: Right. So there is a slight difference in that
3 respect. That's what you're --

4 MR. SLUZAS: Well, we think it's a major difference, but you're
5 absolutely correct, judge. That's true. In our case, the core is built up out of
6 small pieces of stone dust. In the prior art, the core is solid, solid rock,
7 right? So in terms of the rejection that's been applied, the Examiner has
8 made -- relied upon two references -- or actually, all the references in the --
9 all the secondary references are non-analogous art. They're not the same
10 field of endeavor and they're not reasonably pertinent to the problems being
11 addressed by the inventors here. The inventors here were trying to make
12 algaecidal roofing granules and not trying to dispose of stone dust.

13 Now, the Examiner takes -- reformulates the problem and says, well,
14 actually, everybody is in the same field here because they're all dealing with
15 stone dust, all right? But that's just like saying that, well, the art of steam
16 locomotives and the art of surgical scalpels is the same art because they're
17 all dealing with the same basic material, steel, so therefore -- and it's not --
18 it's simply not correct.

19 And if you look at the specific references in a little bit of detail, you'll
20 see that. One of the references that the Examiner relies on is a little bit
21 troublesome because we have three different versions of it. That's the
22 Japanese patent publication. We have -- she initially relied on the patent
23 abstract -- Japan abstract. And then she also relied upon a machine
24 translation of the Japanese patent. And then after she submitted her Answer,
25 she put an actual human translation of the Japanese reference into the record.

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1 And, you know, I have taken the position that she shouldn't be relying
2 on a machine translation primarily because it's just incomprehensible, you
3 know? It's a very -- maybe there are smarter machines, but the one that
4 happened to translate this patent wasn't very smart, and if you were to base a
5 decision on that reference, I'd say that your decision would have to be
6 arbitrary because you can find anything you want in there if you can read it.

7 JUDGE KRATZ: Does the translation that was later provided, does
8 that help her case at all or does that hurt her case?

9 MR. SLUZAS: Well, I think it helps my case, and I'll explain why --

10 JUDGE KRATZ: Okay.

11 MR. SLUZAS: From her perspective, she sees the addition of the
12 sodium silicate solution as a binder, all right? If you look -- she has -- if you
13 look at Balcar -- first, let's talk about Balcar briefly. Balcar is a method for
14 disposing of heavy metal dust from aluminum smelting, all right? So the
15 dust is collected from the smelter and then it's mixed with glass, all right,
16 glass dust. And the glass dust is melted, all right, fused, and the result is
17 the -- as a result, the heavy metals are dispersed in the glass dust and they
18 can't be leached out. The whole point is to make it non-toxic, all right? And
19 they're heavy metals. They're not copper oxide or zinc oxides, which of
20 course are first row transition elements and not heavy metals, second or third
21 row transition elements.

22 So -- but they do disclose -- Balcar does disclose the addition of
23 sodium silicate, which is of course one of the components in our binder,
24 from a different purpose, however. The point is to solubilize the heavy
25 metals, the heavy metal oxides, in the glass. So that's an entirely different
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1 motivation. We're not trying to solubilize anything in our -- you never get it
2 hot enough to do that. We never melt the stone, all right?

3 JUDGE PAK: But do you ever need Balcar at all?

4 MR. SLUZAS: Pardon?

5 JUDGE PAK: Primary references, each discloses sodium silicate
6 solution being --

7 MR. SLUZAS: Yes. That's true.

8 JUDGE PAK: -- used together with the granules which has been -- I
9 guess it's small particles that has been crushed resulting from crushing the
10 mineral particles --

11 MR. SLUZAS: That's true, but --

12 JUDGE PAK: -- and then mixed in with the -- clay, aluminum
13 silicate, which is another binder of yours, and then they add algaecide, and
14 then they fire them, you know, at a high temperature?

15 MR. SLUZAS: That's right. But all those components are added to
16 make a coating on the outside of the rock, right? That's not our purpose.

17 JUDGE PAK: When you combine this binder with the particles, base
18 particles, do you form porous material as well?

19 MR. SLUZAS: Yes.

20 JUDGE PAK: So the primary references also form porous particles?

21 MR. SLUZAS: They form -- no. They form a porous coating on an
22 impervious particle to the extent that the rock itself is pretty much
23 impervious, and it's the coating itself that's porous. You see, the coating is
24 very, very thin, all right? So you can put the algaecide in the coating, but
25 you have to be careful about how much you put in and how you put it in in
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1 order to get the effect you want. You want it to leach out over many years,
2 20 years, 30 years, all right? And here you are putting it into a very thin
3 coating on the outside.

4 So the various references try various tricks to control the rate of
5 release. In fact, if you look at the most recent one, the Joedicke reference,
6 he is putting in a combination of two different algacides, copper sulfate and
7 cupreous oxide, and he's getting a synergistic result, all right? He gets -- the
8 copper oxide comes out faster if he uses -- or excuse me -- yes, copper oxide
9 comes out faster if he uses zinc sulfide as opposed to zinc oxide, and that
10 was what was patentable about his invention.

11 So you're worried about getting it out of this thin coating, you know,
12 over a long period of time. So how do you do that? So we're taking a
13 different approach to that. We're putting it inside the core so now we have a
14 lot more freedom in terms of formulation.

15 JUDGE KRATZ: Now, Claim 39 really just says on or within. It
16 doesn't require --

17 MR. SLUZAS: Yes, on or within. It's a little bit broad.

18 JUDGE KRATZ: So it could be a coating even in your claim. But I
19 think -- I guess the real issue is -- at least the way the rejection is presented,
20 is that the Examiner seems to have acknowledged that neither -- or all of
21 Joedicke, Skadulis, and McMahon fall short of what you claim in Claim 39
22 in that they don't prepare the porous inner base particles by using stone dust
23 and a binder?

24 MR. SLUZAS: Correct.

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1 JUDGE KRATZ: Rather, they just get this aggregate directly from
2 crushing the rock?

3 MR. SLUZAS: Exactly.

4 JUDGE KRATZ: And to try to figure out how to get that -- whether it
5 would have been obvious to form that base particle that way or not is the real
6 issue, and the Examiner goes to these secondary and tertiary references to try
7 to --

8 MR. SLUZAS: That's correct. That's absolutely correct. So Ina takes
9 -- if you read the most recent translation of Ina, what's done is they have
10 stone dust, and they add -- they do add the sodium silicate to the stone dust
11 in order to create agglomerates, but it's being added as a granulating agent.
12 If you look at it, and I think it's Page 5, if you look at it, you see that what
13 they're doing is they're adding it to dry it out. They have -- it's not stated as
14 such in the reference in so many words because the reference is all about the
15 mechanics of it, about a device to do this, all right?

16 JUDGE KRATZ: This is -- you're talking about the --

17 MR. SLUZAS: Ina.

18 JUDGE KRATZ: And he uses -- of course doesn't use -- oh, he uses
19 the silicate --.

20 MR. SLUZAS: They put it in in order -- as a granulating agent to
21 suck the water out of the slurry so it granulates --

22 JUDGE KRATZ: Right. And then uses the binder or the calcium
23 as -- or the lime --

24 MR. SLUZAS: Well, and then it -- yeah. Then it drops through the --
25 it drops into the screen, and you have these agglomerates -- there not very
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1 well agglomerated because his invention is putting a piece of rubber, a
2 rubber sheet and flopping the rubber sheet up and down to press the loosely
3 agglomerated material through the screen. And then they haul it off and use
4 it as road bed, road sub-bed, to form a large continuous mass of aggregate
5 and not as individual particles. So -- and of course there is no algacide
6 added. They're just putting -- they're disposing this as -- put it underneath
7 road base, so there is no need for killing algae or any other problem.

8 JUDGE KRATZ: So does the Examiner ever, anywhere in the Final
9 or the Answer, talk about the three primary references as providing any
10 suggestion to use stone dust and then build up the -- or does he always go to
11 the secondary and tertiary references as --

12 MR. SLUZAS: For stone dust? No. Formulates the problem as all
13 these references deal with stone dust disposal, all right? And we don't -- I
14 mean --

15 JUDGE KRATZ: They don't use it to make the particles for the
16 roofing granules, though? They don't use it as the base for the roofing
17 granules.

18 MR. SLUZAS: They're disposing a stone dust, and I don't know what
19 size it is, all right? It may be a whole range of sizes. They're partially
20 agglomerating it, adding a lime as a temporary binder and hauling it off and
21 using it for road base. So they never form real -- they never cook it, all
22 right? It's never -- they never make individual particles that are permanent
23 out of that material. So the question is, if you were faced with the problem
24 of trying to deal with algae on roofs, would you look at Ina? And my
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1 suggestion is that you would not. It's not the same art, and it's not
2 reasonably pertinent, all right?

3 Same is true with Balcar. In Balcar, which disposes of the heavy
4 metal dust from aluminum smelting, the idea is to -- the last thing you want
5 is to have the material, the toxic material, active in any way. You want to
6 seal it up completely as possible in glass. And to help do that, you put in the
7 sodium silicate. And again, Balcar suggests you can pre-agglomerate the
8 dust. And again, you're using sodium silicate solution, and what's doing the
9 agglomeration is not the sodium silicate, per se. It's the water. You could
10 agglomerate it with water if you wanted. The only reason they use sodium
11 silicate is because the sodium silicate is later on, when you use -- when you
12 melt the glass that's added to help dissolve the heavy metal oxides in the
13 glass and better disperse them, they make them less leachable and not more
14 leachable.

15 JUDGE KRATZ: And of course, Balcar has nothing to do with stone
16 dust really, just glass dust --

17 MR. SLUZAS: Well, it has to do with heavy metal dust.

18 JUDGE KRATZ: Maybe it could be stone dust, I guess, but --

19 MR. SLUZAS: Heavy metal dust and whatever else results from
20 smelting aluminum.

21 JUDGE KRATZ: Yes, smelting aluminum.

22 MR. SLUZAS: So it's just wholly irrelevant. So there's nothing there
23 -- there aren't any algicides in the secondary references, all right, none
24 whatsoever. And it's not -- and none of -- neither of the secondary
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1 references is suggesting -- suggests that you can make permanent particles
2 out of the dust, all right, in which you have something that's leachable.

3 JUDGE KRATZ: Yeah. That's the real issue, and I think it's -- at
4 least the Examiner seems to have understood your claim to require -- and
5 you use that word very often -- aggregate, that you're really -- this porous
6 inner base particle is really an aggregate formed from the stone dust and
7 binder. Although you don't use the word granulating or aggregating the
8 stone dust with the binder, I think that's what's implied by the preparing it
9 from the stone dust and binder. At least that's what you seem to be arguing.

10 MR. SLUZAS: Right. So basically, the two conventional arguments,
11 number one, it's not reasonably pertinent in the art, so it can't be combined.
12 It's not analogous art. And the second is that even if you do combine it,
13 where do you end up? You don't end up with our invention, because you
14 don't have -- there is no teaching of making permanent aggregates out of the
15 stone dust. I mean, you're certainly not doing that with the glass particles
16 because we're not melting the stone. I mean, we're aggregating it, and it has
17 to still be porous. So it can't -- even if you had a type of material that would
18 fuse -- all right. Let's take quartz. The Examiner equates quartz and glass.
19 And of course they're -- one is a crystalline material, and the other one is
20 not. It's glass, all right? And we, in our Specification, we say you can use
21 quartz as an example of the material you can use, but the point being, of
22 course, that if heated up, it's not going to transform and it's not going to melt.
23 If we intended glass, we'd put glass in there, but we didn't. But the
24 Examiner makes that connection in order to get Balcar in, and that's just
25 not -- it's just not correct.

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1 JUDGE KRATZ: I think I understand your position. I don't know --

2 Any other questions for anyone else?

3 JUDGE HANLON: Do you have any?

4 MR. SLUZAS: Okay. Thank you very much.

5 JUDGE KRATZ: Thank you.

6 MR. SLUZAS: Appreciate it.

7 JUDGE HANLON: Thank you very much.

8 Whereupon, the proceedings, at 1:24 p.m., were concluded.

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